1   Constantes

Mass (kg)	Departure	Arrival
A319	63000	57000
A320	69000	62000
A321	81000	73000

TireRadius	0.56	m
MaxEgtsTorque	16000	N.m
EgtsPower	49000	VA
BreakawayResistance	0.01	daN/kg
RollingResistance	0.007	daN/kg
AeroCoef	1.032	
StepCoef	4.1	s

2   Modèle d'accélération

Calcul de la vitesse 5 secondes plus tard en fonction de la masse (mass), la pente en % (slope) et la vitesse courante (speed) :

nextSpeedEGTS(mass, slope, speed) :
    slopeTorque = - mass * 9.81 * sin(atan(slope / 100)) * TireRadius
    resTorque =
        Si speed < 1 : - mass * BreakawayResistance * 10 * TireRadius
        Sinon : - mass * RollingResistance * 10 * TireRadius
    egtsTorque =
        Si speed < 1 : maxEgtsTorque
        Sinon : min(maxEgtsTorque, EgtsPower / (speed / TireRadius))
    aeroTorque = AeroCoef * speed * speed
    torque = egtsTorque + slopeTorque + resTorque + aeroTorque
    acc = max(0, torque / TireRadius / mass)
    $\rightarrow$ speed + StepCoef * acc

nextSpeedClassic(speed):
    $\rightarrow$ speed + 0.9